

## Coli Surface Protein 17 (CS17) from Enterotoxigenic *Escherichia coli* (0.5 mg)

### Catalog No. NR-50693

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#### Contributor:

National Institutes of Allergy and Infectious Diseases (NIAID),  
National Institutes of Health (NIH)

#### Manufacturer:

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#### Product Description:

NR-50693 is a preparation of coli surface protein 17 (CS17) purified from enterotoxigenic *Escherichia coli* (*E. coli*) (ETEC).<sup>1</sup> CS17 is a virulence factor responsible for adhesion of bacterial cells to intestinal epithelial cells.<sup>2</sup>

NR-50693 was obtained from *E. coli*, strain WS6788A, grown in colonization factor antigen (CFA) broth<sup>3</sup> containing 0.15% bile salts in a fermenter. The protein was purified from the culture supernatant by ammonium sulfate precipitation. NR-50693 has an approximate molecular weight of 15 kilodaltons.<sup>1</sup>

The ETEC infectious process is initiated by the organism adhering to the host intestinal epithelial cells via interactions between bacterial adhesions, colonization factors [including CFAs, coli surface (CS), and putative colonization factors (PCFs)] and host receptors.<sup>2</sup> ETEC then causes secretory diarrhea by expressing heat-labile enterotoxin and heat-stable enterotoxin.<sup>4</sup>

#### Material Provided:

Each vial of NR-50693 contains approximately 0.5 mg of CS17 in PBS, pH 7.4. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

#### Packaging/Storage:

NR-50693 was packaged aseptically in cryovials. The product is provided frozen on dry ice and should be stored at -80°C ± 10°C immediately upon arrival. Freeze-thaw cycles should be avoided.

#### Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Coli Surface Protein 17 (CS17) from Enterotoxigenic *Escherichia coli* (0.5 mg), NR-50693."

#### Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see [www.cdc.gov/biosafety/publications/bmbl5/index.htm](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

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#### References:

1. Kaminski, R., Personal Communication.
2. Beachey, E. H. "Bacterial Adherence: Adhesin-Receptor Interactions Mediating the Attachment of Bacteria to Mucosal Surface." *J. Infect. Dis.* 143 (1981): 325-345. PubMed: 7014727.
3. Evans, D. G., D. J. Evans, Jr., and W. Tjoa. "Hemagglutination of Human Group A Erythrocytes by Enterotoxigenic *Escherichia coli* Isolated from Adults

- with Diarrhea: Correlation with Colonization Factor." Infect. Immun. 18 (1977): 330-337. PubMed: 336541.
4. Yamamoto, T. and T. Yokota. "Plasmids of Enterotoxigenic *Escherichia coli* H10407: Evidence for Two Heat-Stable Enterotoxin Genes and a Conjugal Transfer System." J. Bacteriol. 153 (1983): 1352-1360. PubMed: 6298182.

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